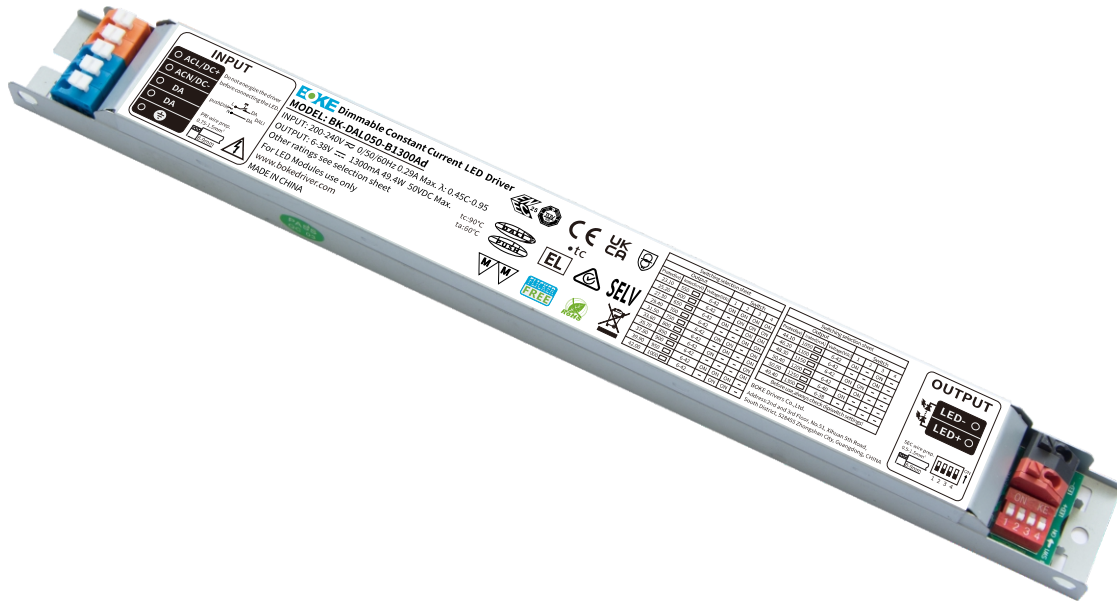


Constant current linear dimmable driver

DAL Series suffix d(DALI-2+pushDIM)



Features

- DALI-2+pushDIM dimming interface
- 16-level current output can be realized by DIP-switch
- Soft dimming and flicker-free at any brightness, meets the new requirements of ErP certification
- Using HPC patented technology at any dimming level, the brightness between lights is same
- Dimming range 1~100%, output current accuracy 2%
- Standby power input<0.5W, meets the requirements of ErP certification
- High PF, high efficiency, low THD
- Intelligent LED hot-plug protection function
- SELV and Class I design, suitable for use inside of the light
- Compliance with CE, ENEC, UKCA, RCM, CCC, EL, DALI-2 and other certifications
- IP20 protection grade, indoor use
- Nominal life-time up to 100,000 h
- 5-year guarantee

Interfaces

- DALI-2(DALI-2 DT6)
- PUSH(pushDIM)

Functions

- Support central emergency application (dimming normal in DC input)
- Support self-contained emergency application
- Protective features (short-circuit, overload, no-load, hot plug-in protection)

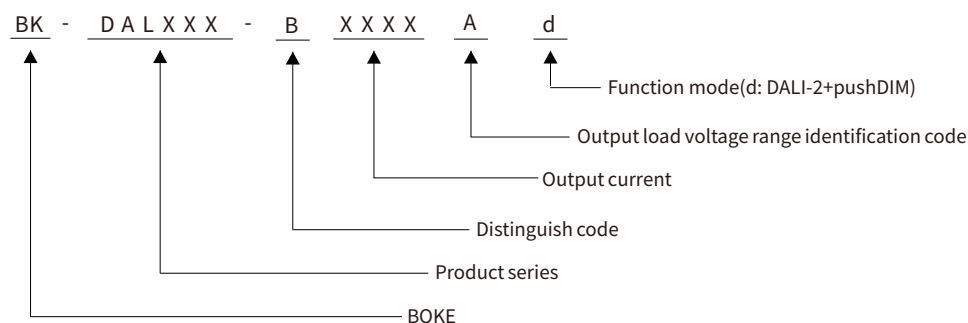
Suitable for lights

- Suitable for linear lights, tri-proof lights, floor lights, bracket lights and other linear or ultra-thin lights etc.

Typical applications

- LED indoor lighting
- LED office lighting
- LED commercial lighting

Model coding rules of DAL series



Function list

Model	Suffix	Wired dimming	
		DALI-2	pushDIM
BK-DAL030-B BK-DAL040-B BK-DAL050-B BK-DAL060-B BK-DAL080-B	d	√	√

Model list

Model	Input voltage	Output power	Output voltage	Output current	Dimension	Certifications
BK-DAL030-B0800Ad	200-240VAC/DC	30.4W MAX.	6-38/40/42VDC	0.275-0.8A	L245*W30*H21mm	CE, ENEC, UKCA, RCM, CCC, EL, DALI-2
BK-DAL040-B1050Ad	200-240VAC/DC	39.9W MAX.	6-38/40/42VDC	0.4-1.05	L285*W30*H21mm	CE, ENEC, UKCA, RCM, CCC, EL, DALI-2
BK-DAL050-B1300Ad	200-240VAC/DC	49.4W MAX.	6-38/40/42VDC	0.55-1.3A	L285*W30*H21mm	CE, ENEC, UKCA, RCM, CCC, EL, DALI-2
BK-DAL060-B1650Ad	200-240VAC/DC	62.7W MAX.	6-38/40/42VDC	0.9-1.65A	L355*W30*H21mm	CE, ENEC, UKCA, RCM, CCC, EL, DALI-2
BK-DAL080-B2000Ad	200-240VAC/DC	80W MAX.	6-40/41/42VDC	1.25-2A	L355*W36*H23mm	CE, ENEC, UKCA, RCM, CCC, EL, DALI-2

Technical data

Product model	BK-DAL030-B0800Ad	
Output parameters		
Regulation method	Constant Current	
Rated output current range	0.275-0.8A	
Rated output voltage range	6-38/40/42VDC	
Rated output power	30.4W Max	
Output current adjustment	DIP S.W(16 levels)	
Output current ripple LF	±2%	
Output current accuracy	±2%	
Linear regulation	±1%	
Load regulation	±2%	
No load output voltage	50VDC	
Flicker-free(typical)	Flickering percent(IEEE 1789)=0.15%, Flicker index(IEEE 1789)=0.000, Pst LM = 0.009, SVM = 0.003, (The above parameters are obtained from testing the panel lights)	
Input parameters		
Rated input voltage range	200-240VAC 200-240VDC	
Input voltage range	180-264VAC 200-264VDC	
Input votage shock	<380 V AC	
Input current	<0.19A (Rated input voltage)	
Input frequency	0/50/60Hz	
Input PF/Input DF	PF:0.45C-0.95 (230V AC & Full load),DF>0.95 (230V AC & Full load)	
Input THD	10% (230V AC & Full load)	
Efficiency(typical)	87% (230V AC & Full load)	
In-rush current	3.554A peak ,188us duration(50 % Ipeak), see the description below for details	
Start/Switchover/Turn off	<0.8s(AC start),<0.8s(DC start),<0.3s(AC/DC switchover),<0.5s(Turn off)	
Switching cycles	> 50,000 switching cycles	
Power consumption	Full load(Pin):34.9W, No load(Pno): N/A, On stand-by(Psb) : <0.5W, Network stand-by(Pnet) : N/A	
Safety		
Withstand voltage	I/P-O/P:3750VAC,I/P-FG:1750VAC,O/P-FG:500VAC ,I/P-DALI: 1500V AC, O/P-DALI: 1500V AC.	
Mains surge capability	L-N:2KV,L-FG/N-FG:2KV(Performance criterion:A)	
Leakage current	0.61mA (230V AC & Full load)	
Isolation resistance	I/P-O/P:100MΩ/500Vdc/25°C/70% RH	
Control interface		
DALI dimming port	Voltage range: 9.5-22.5V, typical 16V, interface current consumption: 1.8mA	
pushDIM dimming port	Voltage range: 180-264V 47/63Hz	
1-10V 3in1 dimming port	N/A	
Auxiliary power supply	N/A	
Dimming range	1%-100%	
Dimming drive mode	AM(amplitude modulation)	
Emergency support		
Central emergency system	Supported(dimming normal in DC input)	
Self-contained emergency	Supported	
Environment & Life time		
Operating temperature	Ta=-20-60°C	
Case temperature	Tc=90°C	
Operating humidity	5-85% RH, non-condensing	
Storage temp./humidity	-40-80°C, 5-85% RH, non-condensing	
IP grade	IP20	
MTBF	500,000H,MIL-HDBK-217F(25°C)	
Life-time	Nominal life-time up to 100,000 h, see the description below for details	
Vibration resistant	10~500Hz,5G 12min./1cycle,period for 72min. each along X,Y,Z axes	
Acoustic Noise	<25dB(30cm, Normal operation)	
Environmental protection	RoHS	
Certifications and standards		
Certification	CE, ENEC, UKCA, RCM, EL, DALI-2, CCC	
Safety	EN61347-1, EN61347-2-13, EN62384	
EMC	EN55015, EN61000-3-2 , EN61000-3-3, EN61000-4-2,3,4,5,6,8,11, EN61547	
DALI-2	IEC 62386-101(DALI-2), IEC 62386-102(DALI-2), IEC 62386-207(DALI-2)	
EL	Compatible IEC 61347-2- 13 Annex J, compatible with EN 60598-2-22 and EN 50172	
RF	N/A	

Remarks

1.By default, all parameter are measured at 230VAC input, full load and 25°C of ambient temperature.

Technical data

Product model	BK-DAL040-B1050Ad	
Output parameters		
Regulation method	Constant Current	
Rated output current range	0.4-1.05A	
Rated output voltage range	6-38/40/42VDC	
Rated output power	39.9W Max	
Output current adjustment	DIP S.W(16 levels)	
Output current ripple LF	±2%	
Output current accuracy	±2%	
Linear regulation	±1%	
Load regulation	±2%	
No load output voltage	50VDC	
Flicker-free(typical)	Flickering percent(IEEE 1789)=0.136%, Flicker index(IEEE 1789)=0.000, Pst LM = 0.000, SVM = 0.004, (The above parameters are obtained from testing the panel lights)	
Input parameters		
Rated input voltage range	200-240VAC 200-240VDC	
Input voltage range	180-264VAC 200-264VDC	
Input votage shock	<380 V AC	
Input current	<0.24A (Rated input voltage)	
Input frequency	0/50/60Hz	
Input PF/Input DF	PF:0.45C-0.95 (230V AC & Full load),DF>0.95 (230V AC & Full load)	
Input THD	10% (230V AC & Full load)	
Efficiency(typical)	87% (230V AC & Full load)	
In-rush current	3.75A peak ,190us duration(50 % Ipeak), see the description below for details	
Start/Switchover/Turn off	<0.8s(AC start),<0.8s(DC start),<0.3s(AC/DC switchover),<0.5s(Turn off)	
Switching cycles	> 50,000 switching cycles	
Power consumption	Full load(Pin):45.9W, No load(Pno): N/A, On stand-by(Psb) : <0.5W, Network stand-by(Pnet) : N/A	
Safety		
Withstand voltage	I/P-O/P:3750VAC,I/P-FG:1750VAC,O/P-FG:500VAC ,I/P-DALI: 1500V AC, O/P-DALI: 1500V AC.	
Mains surge capability	L-N:2KV,L-FG/N-FG:2KV(Performance criterion:A)	
Leakage current	0.67mA (230V AC & Full load)	
Isolation resistance	I/P-O/P:100MΩ/500Vdc/25°C/70% RH	
Control interface		
DALI dimming port	Voltage range: 9.5-22.5V, typical 16V, interface current consumption: 1.8mA	
pushDIM dimming port	Voltage range: 180-264V 47/63Hz	
1-10V 3in1 dimming port	N/A	
Auxiliary power supply	N/A	
Dimming range	1%-100%	
Dimming drive mode	AM(amplitude modulation)	
Emergency support		
Central emergency system	Supported(dimming normal in DC input)	
Self-contained emergency	Supported	
Environment & Life time		
Operating temperature	Ta=-20-60°C	
Case temperature	Tc=90°C	
Operating humidity	5-85% RH, non-condensing	
Storage temp./humidity	-40-80°C, 5-85% RH, non-condensing	
IP grade	IP20	
MTBF	500,000H,MIL-HDBK-217F(25°C)	
Life-time	Nominal life-time up to 100,000 h, see the description below for details	
Vibration resistant	10~500Hz,5G 12min./1cycle,period for 72min. each along X,Y,Z axes	
Acoustic Noise	<25dB(30cm, Normal operation)	
Environmental protection	RoHS	
Certifications and standards		
Certification	CE, ENEC, UKCA, RCM, EL, DALI-2, CCC	
Safety	EN61347-1, EN61347-2-13, EN62384	
EMC	EN55015, EN61000-3-2 , EN61000-3-3, EN61000-4-2,3,4,5,6,8,11, EN61547	
DALI-2	IEC 62386-101(DALI-2), IEC 62386-102(DALI-2), IEC 62386-207(DALI-2)	
EL	Compatible IEC 61347-2- 13 Annex J, compatible with EN 60598-2-22 and EN 50172	
RF	N/A	

Remarks

1.By default, all parameter are measured at 230VAC input, full load and 25°C of ambient temperature.

Technical data

Product model	BK-DAL050-B1300Ad	
Output parameters		
Regulation method	Constant Current	
Rated output current range	0.55-1.3A	
Rated output voltage range	6-38/40/42VDC	
Rated output power	49.4W Max	
Output current adjustment	DIP S.W(16 levels)	
Output current ripple LF	±2%	
Output current accuracy	±2%	
Linear regulation	±1%	
Load regulation	±2%	
No load output voltage	50VDC	
Flicker-free(typical)	Flickering percent(IEEE 1789)=0.177%, Flicker index(IEEE 1789)=0.000, Pst LM = 0.009, SVM = 0.003, (The above parameters are obtained from testing the panel lights)	
Input parameters		
Rated input voltage range	200-240VAC 200-240VDC	
Input voltage range	180-264VAC 200-264VDC	
Input votage shock	<380 V AC	
Input current	<0.29A (Rated input voltage)	
Input frequency	0/50/60Hz	
Input PF/Input DF	PF:0.45C-0.95 (230V AC & Full load),DF>0.95 (230V AC & Full load)	
Input THD	10% (230V AC & Full load)	
Efficiency(typical)	88.5% (230V AC & Full load)	
In-rush current	4.125A peak ,174us duration(50 % Ipeak), see the description below for details	
Start/Switchover/Turn off	<0.8s(AC start),<0.8s(DC start),<0.3s(AC/DC switchover),<0.5s(Turn off)	
Switching cycles	> 50,000 switching cycles	
Power consumption	Full load(Pin):55.8W, No load(Pno): N/A, On stand-by(Psb) : <0.5W, Network stand-by(Pnet) : N/A	
Safety		
Withstand voltage	I/P-O/P:3750VAC,I/P-FG:1750VAC,O/P-FG:500VAC ,I/P-DALI: 1500V AC, O/P-DALI: 1500V AC.	
Mains surge capability	L-N:2KV,L-FG/N-FG:2KV(Performance criterion:A)	
Leakage current	0.65mA (230V AC & Full load)	
Isolation resistance	I/P-O/P:100MΩ/500Vdc/25°C/70% RH	
Control interface		
DALI dimming port	Voltage range: 9.5-22.5V, typical 16V, interface current consumption: 1.8mA	
pushDIM dimming port	Voltage range: 180-264V 47/63Hz	
1-10V 3in1 dimming port	N/A	
Auxiliary power supply	N/A	
Dimming range	1%-100%	
Dimming drive mode	AM(amplitude modulation)	
Emergency support		
Central emergency system	Supported(dimming normal in DC input)	
Self-contained emergency	Supported	
Environment & Life time		
Operating temperature	Ta=-20-60°C	
Case temperature	Tc=90°C	
Operating humidity	5-85% RH, non-condensing	
Storage temp./humidity	-40-80°C, 5-85% RH, non-condensing	
IP grade	IP20	
MTBF	500,000H,MIL-HDBK-217F(25°C)	
Life-time	Nominal life-time up to 100,000 h, see the description below for details	
Vibration resistant	10~500Hz,5G 12min./1cycle,period for 72min. each along X,Y,Z axes	
Acoustic Noise	<25dB(30cm, Normal operation)	
Environmental protection	RoHS	
Certifications and standards		
Certification	CE, ENEC, UKCA, RCM, EL, DALI-2, CCC	
Safety	EN61347-1, EN61347-2-13, EN62384	
EMC	EN55015, EN61000-3-2 , EN61000-3-3, EN61000-4-2,3,4,5,6,8,11, EN61547	
DALI-2	IEC 62386-101(DALI-2), IEC 62386-102(DALI-2), IEC 62386-207(DALI-2)	
EL	Compatible IEC 61347-2- 13 Annex J, compatible with EN 60598-2-22 and EN 50172	
RF	N/A	

Remarks

1.By default, all parameter are measured at 230VAC input, full load and 25°C of ambient temperature.

Technical data

Product model	BK-DAL060-B1650Ad	
Output parameters		
Regulation method	Constant Current	
Rated output current range	0.9-1.65A	
Rated output voltage range	6-38/40/42VDC	
Rated output power	62.7W Max	
Output current adjustment	DIP S.W(16 levels)	
Output current ripple LF	±2%	
Output current accuracy	±2%	
Linear regulation	±1%	
Load regulation	±2%	
No load output voltage	50VDC	
Flicker-free(typical)	Flickering percent(IEEE 1789)=0.04%, Flicker index(IEEE 1789)=0.000, Pst LM = 0.000, SVM = 0.001, (The above parameters are obtained from testing the panel lights)	
Input parameters		
Rated input voltage range	200-240VAC 200-240VDC	
Input voltage range	180-264VAC 200-264VDC	
Input votage shock	<380 V AC	
Input current	<0.38A (Rated input voltage)	
Input frequency	0/50/60Hz	
Input PF/Input DF	PF:0.45C-0.95 (230V AC & Full load),DF>0.95 (230V AC & Full load)	
Input THD	10% (230V AC & Full load)	
Efficiency(typical)	89% (230V AC & Full load)	
In-rush current	5.125A peak ,214us duration(50 % Ipeak), see the description below for details	
Start/Switchover/Turn off	<0.8s(AC start),<0.8s(DC start),<0.3s(AC/DC switchover),<0.5s(Turn off)	
Switching cycles	> 50,000 switching cycles	
Power consumption	Full load(Pin):70.4W, No load(Pno): N/A, On stand-by(Psb) : <0.5W, Network stand-by(Pnet) : N/A	
Safety		
Withstand voltage	I/P-O/P:3750VAC,I/P-FG:1750VAC,O/P-FG:500VAC ,I/P-DALI: 1500V AC, O/P-DALI: 1500V AC.	
Mains surge capability	L-N:2KV,L-FG/N-FG:2KV(Performance criterion:A)	
Leakage current	0.68mA (230V AC & Full load)	
Isolation resistance	I/P-O/P:100MΩ/500Vdc/25°C/70% RH	
Control interface		
DALI dimming port	Voltage range: 9.5-22.5V, typical 16V, interface current consumption: 1.8mA	
pushDIM dimming port	Voltage range: 180-264V 47/63Hz	
1-10V 3in1 dimming port	N/A	
Auxiliary power supply	N/A	
Dimming range	1%-100%	
Dimming drive mode	AM(amplitude modulation)	
Emergency support		
Central emergency system	Supported(dimming normal in DC input)	
Self-contained emergency	Supported	
Environment & Life time		
Operating temperature	Ta=-20-60°C	
Case temperature	Tc=90°C	
Operating humidity	5-85% RH, non-condensing	
Storage temp./humidity	-40-80°C, 5-85% RH, non-condensing	
IP grade	IP20	
MTBF	500,000H,MIL-HDBK-217F(25°C)	
Life-time	Nominal life-time up to 100,000 h, see the description below for details	
Vibration resistant	10~500Hz,5G 12min./1cycle,period for 72min. each along X,Y,Z axes	
Acoustic Noise	<25dB(30cm, Normal operation)	
Environmental protection	RoHS	
Certifications and standards		
Certification	CE, ENEC, UKCA, RCM, EL, DALI-2, CCC	
Safety	EN61347-1, EN61347-2-13, EN62384	
EMC	EN55015, EN61000-3-2 , EN61000-3-3, EN61000-4-2,3,4,5,6,8,11, EN61547	
DALI-2	IEC 62386-101(DALI-2), IEC 62386-102(DALI-2), IEC 62386-207(DALI-2)	
EL	Compatible IEC 61347-2- 13 Annex J, compatible with EN 60598-2-22 and EN 50172	
RF	N/A	

Remarks

1.By default, all parameter are measured at 230VAC input, full load and 25°C of ambient temperature.

Technical data

Product model	BK-DAL080-B2000Ad	
Output parameters		
Regulation method	Constant Current	
Rated output current range	1.25-2A	
Rated output voltage range	6-40/41/42VDC	
Rated output power	80W Max	
Output current adjustment	DIP S.W(16 levels)	
Output current ripple LF	±2%	
Output current accuracy	±2%	
Linear regulation	±1%	
Load regulation	±2%	
No load output voltage	50VDC	
Flicker-free(typical)	Flickering percent(IEEE 1789)=0.033%, Flicker index(IEEE 1789)=0.000, Pst LM = 0.013, SVM = 0.001, (The above parameters are obtained from testing the panel lights)	
Input parameters		
Rated input voltage range	200-240VAC 200-240VDC	
Input voltage range	180-264VAC 200-264VDC	
Input vottage shock	<380 V AC	
Input current	<0.47A (Rated input voltage)	
Input frequency	0/50/60Hz	
Input PF/Input DF	PF:0.45C-0.95 (230V AC & Full load),DF>0.95 (230V AC & Full load)	
Input THD	10% (230V AC & Full load)	
Efficiency(typical)	89.5% (230V AC & Full load)	
In-rush current	7A peak ,194us duration(50 % Ipeak), see the description below for details	
Start/Switchover/Turn off	<0.8s(AC start),<0.8s(DC start),<0.3s(AC/DC switchover),<0.5s(Turn off)	
Switching cycles	> 50,000 switching cycles	
Power consumption	Full load(Pin):89.4W, No load(Pno): N/A, On stand-by(Psb) : <0.5W, Network stand-by(Pnet) : N/A	
Safety		
Withstand voltage	I/P-O/P:3750VAC,I/P-FG:1750VAC,O/P-FG:500VAC ,I/P-DALI: 1500V AC, O/P-DALI: 1500V AC.	
Mains surge capability	L-N:2KV,L-FG/N-FG:2KV(Performance criterion:A)	
Leakage current	0.64mA (230V AC & Full load)	
Isolation resistance	I/P-O/P:100MΩ/500Vdc/25°C/70% RH	
Control interface		
DALI dimming port	Voltage range: 9.5-22.5V, typical 16V, interface current consumption: 1.8mA	
pushDIM dimming port	Voltage range: 180-264V 47/63Hz	
1-10V 3in1 dimming port	N/A	
Auxiliary power supply	N/A	
Dimming range	1%-100%	
Dimming drive mode	AM(amplitude modulation)	
Emergency support		
Central emergency system	Supported(dimming normal in DC input)	
Self-contained emergency	Supported	
Environment & Life time		
Operating temperature	Ta=-20-60°C	
Case temperature	Tc=90°C	
Operating humidity	5-85% RH, non-condensing	
Storage temp./humidity	-40-80°C, 5-85% RH, non-condensing	
IP grade	IP20	
MTBF	500,000H,MIL-HDBK-217F(25°C)	
Life-time	Nominal life-time up to 100,000 h, see the description below for details	
Vibration resistant	10~500Hz,5G 12min./1cycle,period for 72min. each along X,Y,Z axes	
Acoustic Noise	<25dB(30cm, Normal operation)	
Environmental protection	RoHS	
Certifications and standards		
Certification	CE, ENEC, UKCA, RCM, EL, DALI-2, CCC	
Safety	EN61347-1, EN61347-2-13, EN62384	
EMC	EN55015, EN61000-3-2 , EN61000-3-3, EN61000-4-2,3,4,5,6,8,11, EN61547	
DALI-2	IEC 62386-101(DALI-2), IEC 62386-102(DALI-2), IEC 62386-207(DALI-2)	
EL	Compatible IEC 61347-2- 13 Annex J, compatible with EN 60598-2-22 and EN 50172	
RF	N/A	

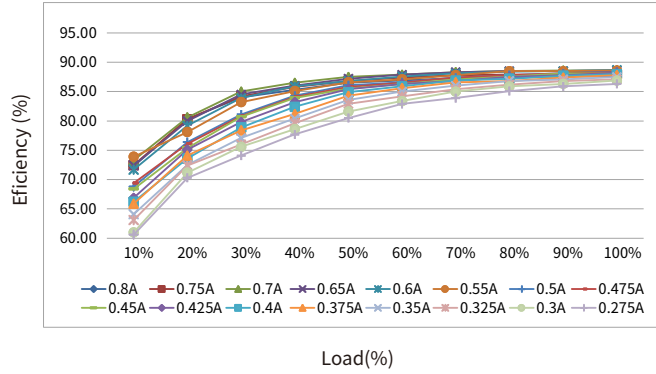
Remarks

1.By default, all parameter are measured at 230VAC input, full load and 25°C of ambient temperature.

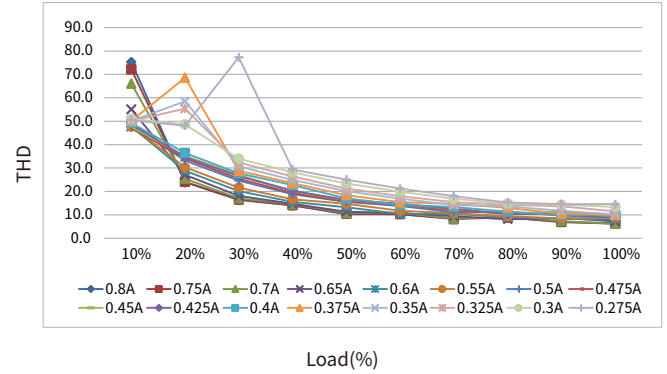
Electrical values

BK-DAL030-B0800Ad

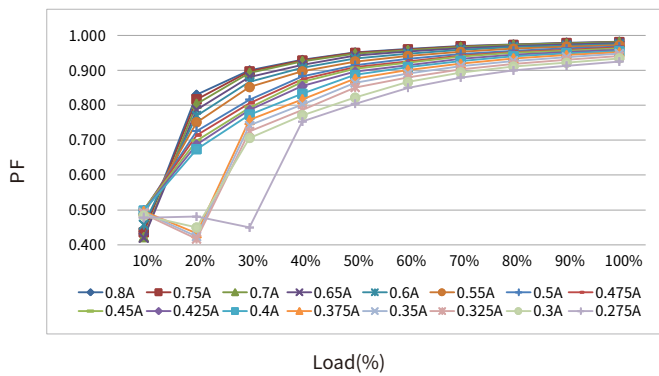
Efficiency vs Load



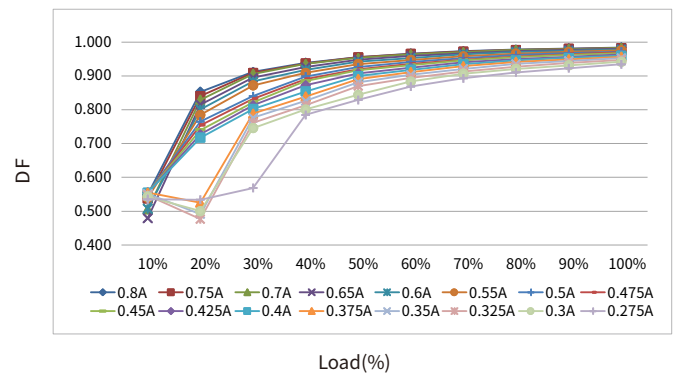
THD vs. Load



Power factor vs. Load

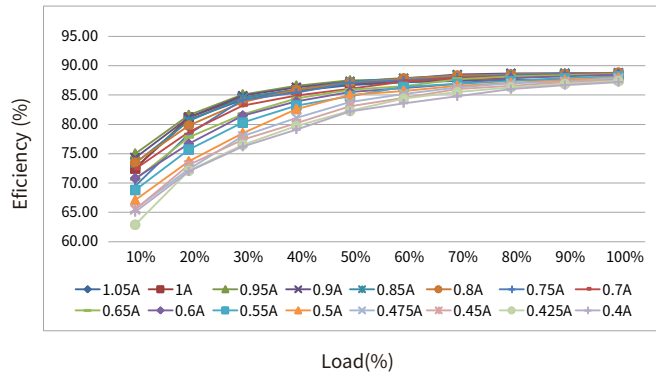


Displacement factor vs. Load

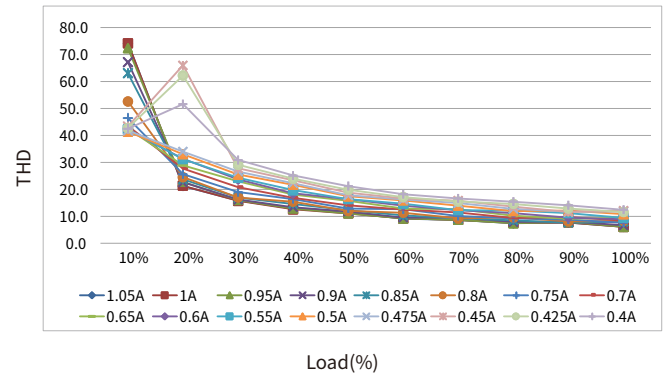


BK-DAL040-B1050Ad

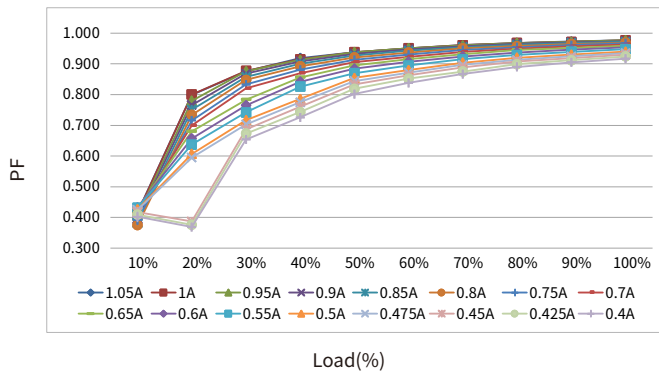
Efficiency vs Load



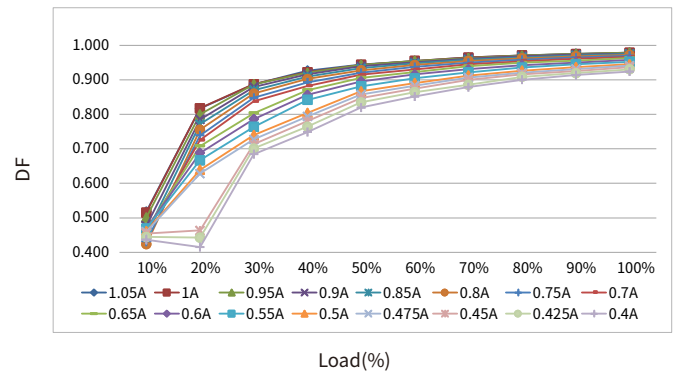
THD vs. Load



Power factor vs. Load



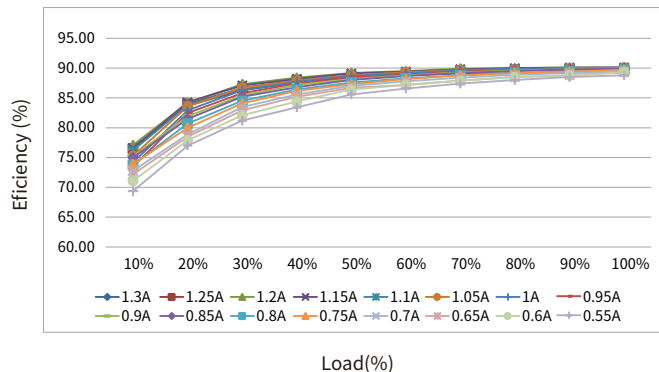
Displacement factor vs. Load



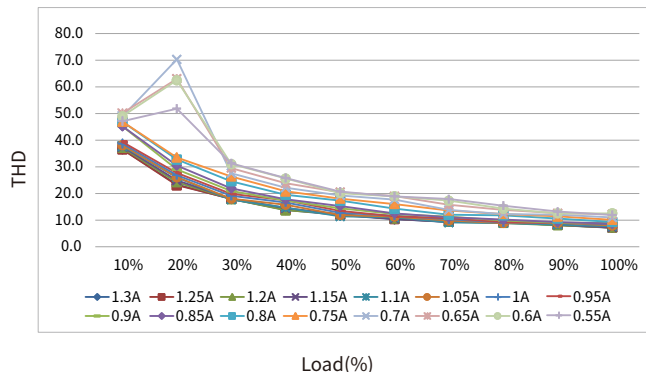
Electrical values

BK-DAL050-B1300Ad

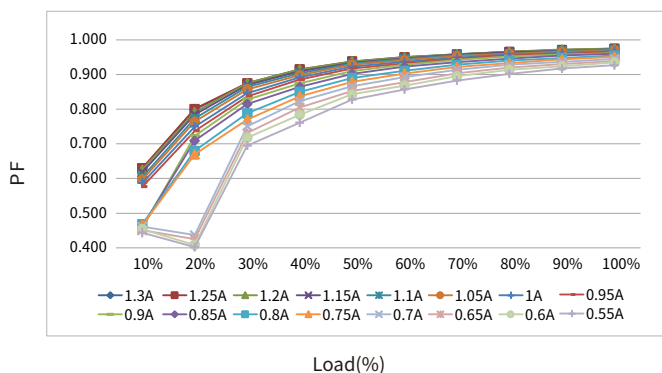
Efficiency vs Load



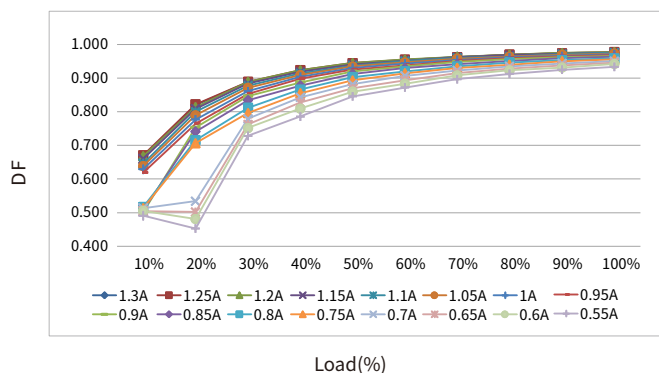
THD vs. Load



Power factor vs. Load

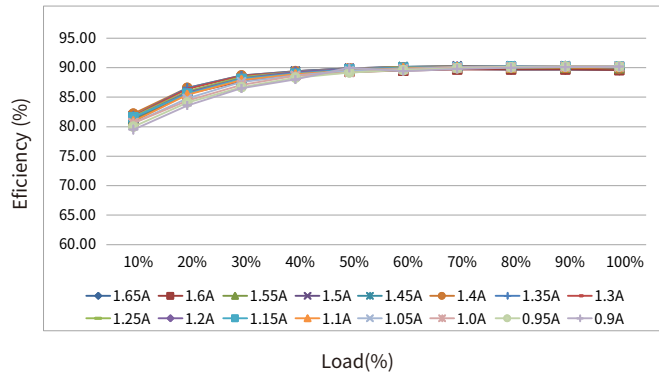


Displacement factor vs. Load

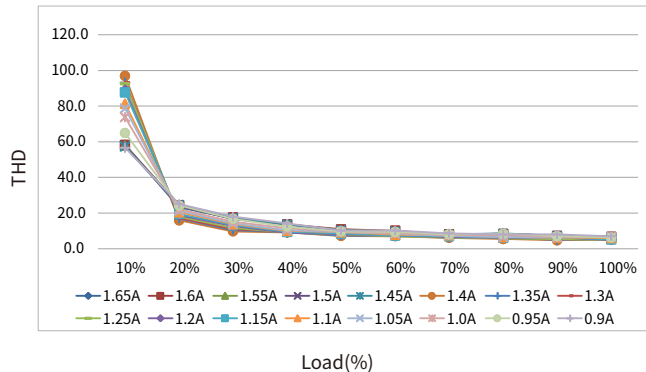


BK-DAL060-B1650Ad

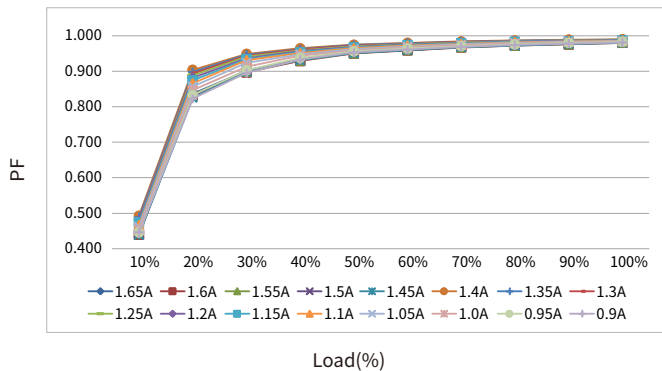
Efficiency vs Load



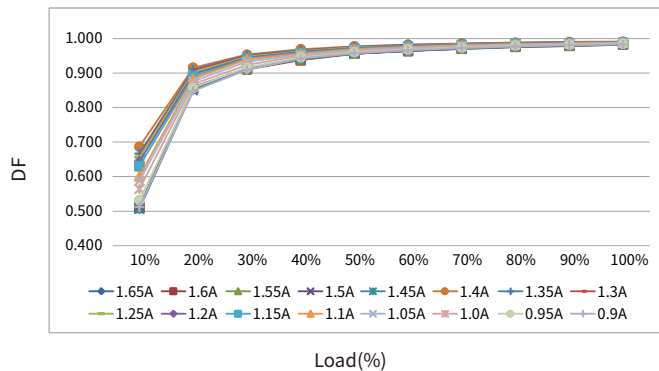
THD vs. Load



Power factor vs. Load



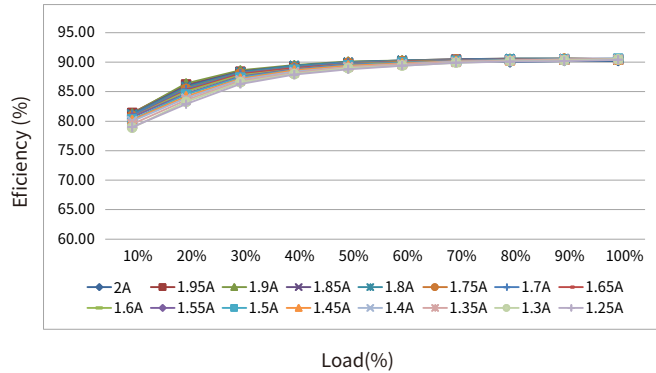
Displacement factor vs. Load



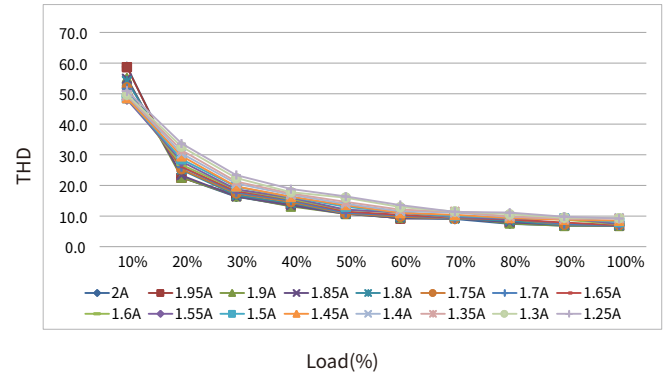
Electrical values

BK-DAL080-B2000Ad

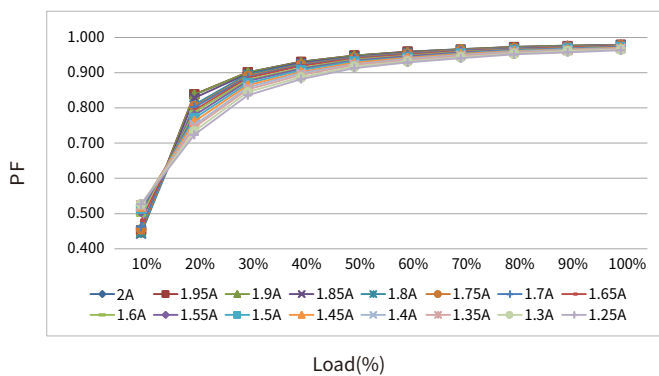
Efficiency vs Load



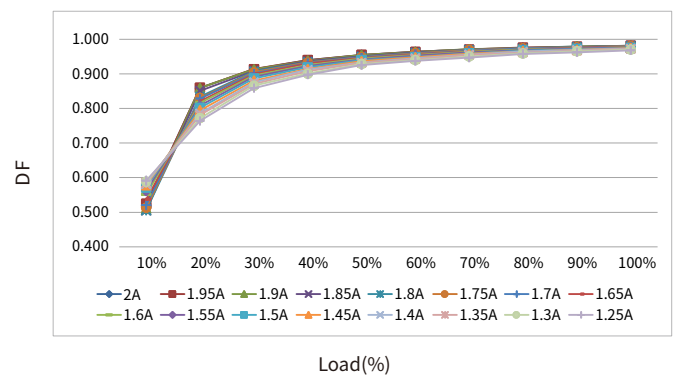
THD vs. Load



Power factor vs. Load



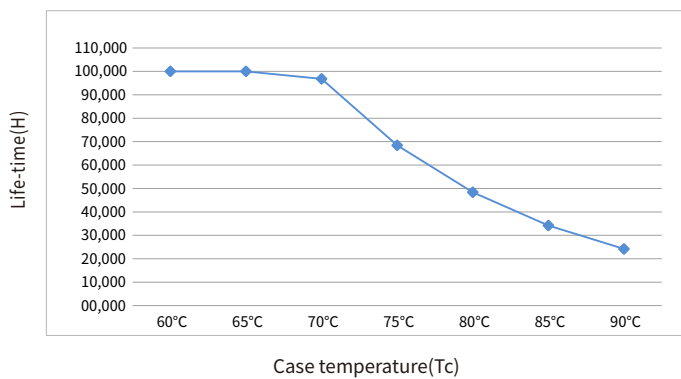
Displacement factor vs. Load



Expected life-time

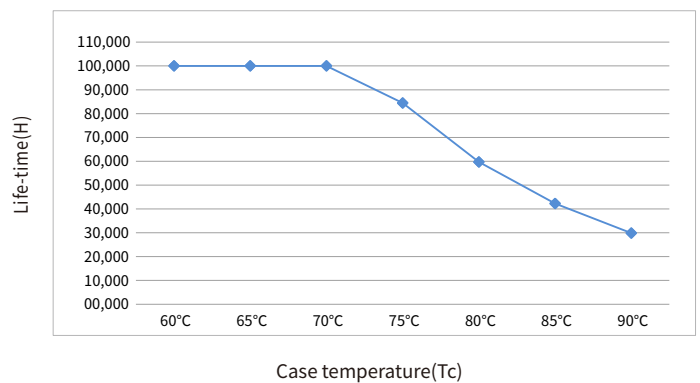
BK-DAL030-B0800Ad

Life-time vs. case temperature



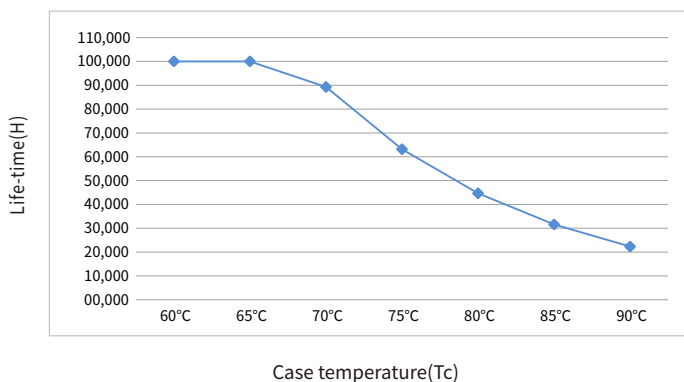
BK-DAL040-B1050Ad

Life-time vs. case temperature



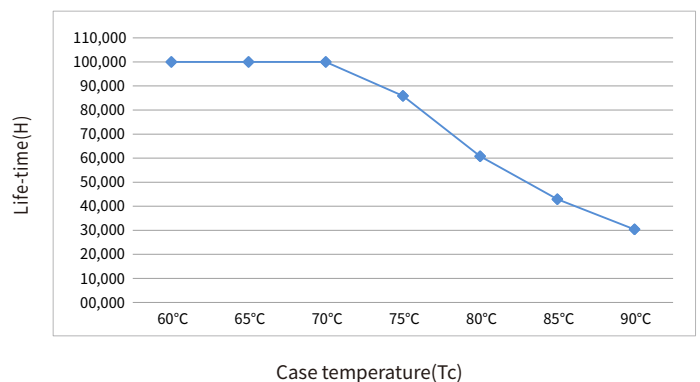
BK-DAL050-B1300Ad

Life-time vs. case temperature



BK-DAL060-B1650Ad

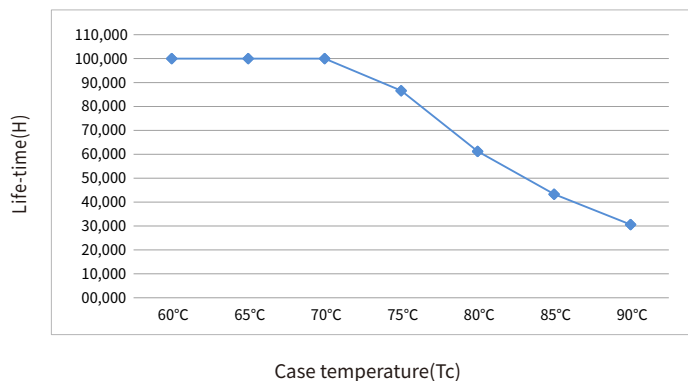
Life-time vs. case temperature



Expected life-time

BK-DAL080-B2000Ad

Life-time vs. case temperature



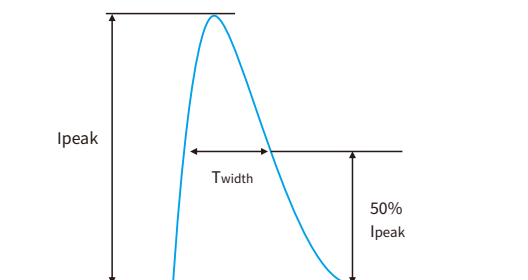
- The life-time of the LED driver is shown in the figure above (calculated based on the 90% survival rate).
- The relation of t_c to t_a temperature depends also on the luminaire design.

Surge

Model	Ipeak	Twidth	Condition	Relative number of MCB/pcs															
				B10	B13	B16	B20	B25	C10	C13	C16	C20	C25	D10	D13	D16	D20	D25	
BK-DAL030-B0800Ad	3.55A	188us	AC 230V,Full load, Cold start,Ta≤30°C, MCB is not installed side by side	44	57	70	88	110	44	57	70	88	110	44	57	70	88	110	
BK-DAL040-B1050Ad	3.75A	190us		33	43	53	66	83	33	43	53	67	83	33	43	53	67	83	
BK-DAL050-B1300Ad	4.125A	174us		27	36	44	55	69	27	36	44	55	69	27	36	44	55	69	
BK-DAL060-B1650Ad	5.125A	214us		22	28	35	43	54	22	28	35	43	54	22	28	35	43	54	
BK-DAL080-B2000Ad	7A	194us		17	22	27	34	43	17	22	27	34	43	17	22	27	34	43	

Remarks

- The number of drives mounted under different MCBs in the table is the maximum value. Please do not exceed this number during installation.
- Calculation uses typical values from ABB series S200 as a reference.
- Different brands and models of miniature circuit breakers, the number of drives mounted will be slightly different.
- If the ambient temperature of the MCB installation exceeds 30°C or multiple MCBs are installed side by side, the number of drives mounted will be reduced and the calculation needs to be recalculated.
- Electrician's usually consider Type B for household lighting and Type C for commercial lighting application.



Functions

Output short-circuit behaviour

- Output short-circuit will not damage the driver.
- After removing the short circuit fault, the driver will automatically resume output.

Output no-load operation

- Output no-load will not damage the driver.
- Please turn off the driver first if you need to connect the LED load.

Output overload protection

- The LED driver turns off the output if the output voltage range is exceeded.
- The output will be activated again after restart the LED driver.

Output hot plug-in

In the following two cases, the LED driver will automatically turn off the output to protect the LED:

- When the driver is powered on first and the LED is connected later.
- When the driver is powered on, disconnected and connected again.

The output will be activated again after restart of the LED driver.

Driver restart method

There are two ways to restart the driver:

- Through the AC input: disconnect the AC of the driver and power it again.
- Through dimming interface.
DALI: send "OFF" command first, then send "MAX" command.
pushDIM: short press pushbutton two times, then long press pushbutton.

Insulation between circuits

Isolation	Input	Output	Case	DALI	PUSH
Input	-	Double	Basic	Basic	-
Output	Double	-	Basic	Double	Double
Case	Basic	Basic	-	Basic	Basic

DIP-switch & output current

BK-DAL030-B0800Ad

Prated(w)	Output		1	2	3	4	Dimming depth
	Irated(mA)	Voltage(Vdc)					
11.55	275	6-42	ON	ON	ON	ON	1%
12.60	300	6-42	--	ON	ON	ON	1%
13.65	325	6-42	ON	--	ON	ON	1%
14.70	350	6-42	--	--	ON	ON	1%
15.75	375	6-42	ON	ON	--	ON	1%
16.80	400	6-42	--	ON	--	ON	1%
17.85	425	6-42	ON	--	--	ON	1%
18.90	450	6-42	--	--	--	ON	1%
19.95	475	6-42	ON	ON	ON	--	1%
21.00	500	6-42	--	ON	ON	--	1%
23.10	550	6-42	ON	--	ON	--	1%
25.20	600	6-42	--	--	ON	--	1%
27.30	650	6-42	ON	ON	--	--	1%
29.40	700	6-42	--	ON	--	--	1%
30.00	750	6-40	ON	--	--	--	1%
30.40	800 ★	6-38	--	--	--	--	1%

BK-DAL050-B1300Ad

Prated(w)	Output		1	2	3	4	Dimming depth
	Irated(mA)	Voltage(Vdc)					
23.10	550	6-42	ON	ON	ON	ON	1%
25.20	600	6-42	--	ON	ON	ON	1%
27.30	650	6-42	ON	--	ON	ON	1%
29.40	700	6-42	--	--	ON	ON	1%
31.50	750	6-42	ON	ON	--	ON	1%
33.60	800	6-42	--	ON	--	ON	1%
35.70	850	6-42	ON	--	--	ON	1%
37.80	900	6-42	--	--	--	ON	1%
39.90	950	6-42	ON	ON	ON	--	1%
42.00	1000	6-42	--	ON	ON	--	1%
44.10	1050	6-42	ON	--	ON	--	1%
46.20	1100	6-42	--	--	ON	--	1%
48.30	1150	6-42	ON	ON	--	--	1%
50.40	1200	6-42	--	ON	--	--	1%
50.00	1250	6-40	ON	--	--	--	1%
49.40	1300 ★	6-38	--	--	--	--	1%

BK-DAL080-B2000Ad

Prated(w)	Output		1	2	3	4	Dimming depth
	Irated(mA)	Voltage(Vdc)					
52.50	1250	6-42	ON	ON	ON	ON	1%
54.60	1300	6-42	--	ON	ON	ON	1%
56.70	1350	6-42	ON	--	ON	ON	1%
58.80	1400	6-42	--	--	ON	ON	1%
60.90	1450	6-42	ON	ON	--	ON	1%
63.00	1500	6-42	--	ON	--	ON	1%
65.10	1550	6-42	ON	--	--	ON	1%
67.20	1600	6-42	--	--	--	ON	1%
69.30	1650	6-42	ON	ON	ON	--	1%
71.40	1700	6-42	--	ON	ON	--	1%
73.50	1750	6-42	ON	--	ON	--	1%
75.60	1800	6-42	--	--	ON	--	1%
77.70	1850	6-42	ON	ON	--	--	1%
79.80	1900	6-42	--	ON	--	--	1%
80.00	1950	6-41	ON	--	--	--	1%
80.00	2000 ★	6-40	--	--	--	--	1%

BK-DAL040-B1050Ad

Prated(w)	Output		1	2	3	4	Dimming depth
	Irated(mA)	Voltage(Vdc)					
16.80	400	6-42	ON	ON	ON	ON	1%
17.85	425	6-42	--	ON	ON	ON	1%
18.90	450	6-42	ON	--	ON	ON	1%
19.95	475	6-42	--	--	ON	ON	1%
21.00	500	6-42	ON	ON	--	ON	1%
23.10	550	6-42	--	ON	--	ON	1%
25.20	600	6-42	ON	--	--	ON	1%
27.30	650	6-42	--	--	--	ON	1%
29.40	700	6-42	ON	ON	ON	--	1%
31.50	750	6-42	--	ON	ON	--	1%
33.60	800	6-42	ON	--	ON	--	1%
35.70	850	6-42	--	--	ON	--	1%
37.80	900	6-42	ON	ON	--	--	1%
39.90	950	6-42	--	ON	--	--	1%
40.00	1000	6-40	ON	--	--	--	1%
39.90	1050 ★	6-38	--	--	--	--	1%

BK-DAL060-B1650Ad

Prated(w)	Output		1	2	3	4	Dimming depth
	Irated(mA)	Voltage(Vdc)					
37.80	900	6-42	ON	ON	ON	ON	1%
39.90	950	6-42	--	ON	ON	ON	1%
42.00	1000	6-42	ON	--	ON	ON	1%
44.10	1050	6-42	--	--	ON	ON	1%
46.20	1100	6-42	ON	ON	--	ON	1%
48.30	1150	6-42	--	ON	--	ON	1%
50.40	1200	6-42	ON	--	--	ON	1%
52.50	1250	6-42	--	--	--	ON	1%
54.60	1300	6-42	ON	ON	ON	--	1%
56.70	1350	6-42	--	ON	ON	--	1%
58.80	1400	6-42	ON	--	ON	--	1%
60.90	1450	6-42	--	--	ON	--	1%
63.00	1500	6-42	ON	ON	--	--	1%
62.00	1550	6-40	--	ON	--	--	1%
60.80	1600	6-38	ON	--	--	--	1%
59.40	1650 ★	6-38	--	--	--	--	1%

Remarks:

- ★ It means that this item is the factory default current.
- It means that this channel is OFF.

Label

[illegible][illegible][illegible][illegible]

INPUT

- ACL/DC+
- ACN/DC-
- DA
- DA
-

Do not energize the driver before connecting the LED.

PRI wire prep: 0.75" (5mm)
SEC wire prep: 0.3mm

EOKE Dimmable Constant Current LED Driver

MODEL: BK-DAL080-B2000Ad

INPUT: 200-240V $\approx$ 0/50/60Hz 0.47A Max. λ : 0.45C-0.95

OUTPUT: 2-40V $\approx$ 2000mA 80W 50VDC Max.

Other ratings see selection sheet

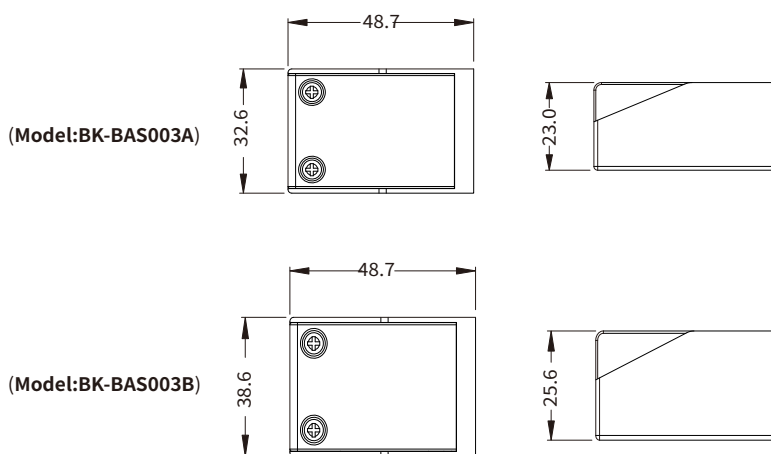
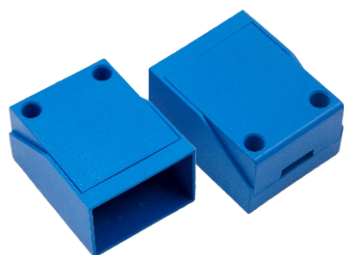
For LED Modules use only
www.bokedriver.com

MADE IN CHINA

OUTPUT

SEC wire prep: 0.5-1.5mm"

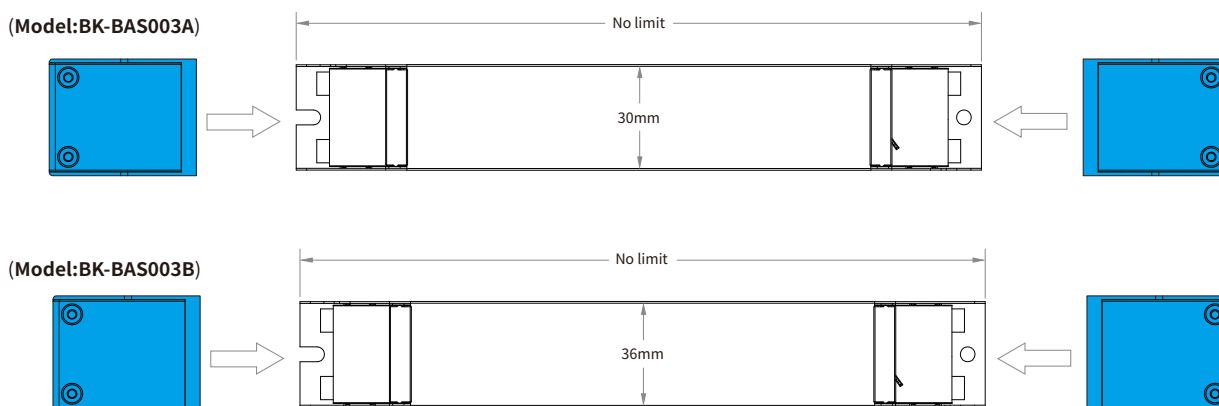
Optional accessories



Remark: BK-BAS003A apply to DAL030-B,DAL040-B,DAL050-B,DAL060-B;
BK-BAS003B apply to DAL080-B.

Unit:mm

Installation diagram of accessories



DALI dimming application

Wiring diagram



Switch to the DALI dimming mode

- After installation according to the wiring diagram of DALI dimming application, the driver will automatically switch to the DALI control mode after receiving any DALI command.

Remarks:

- Standard DALI control line voltage range: 9.5V to 22.5V, type 16V.
- The two DALI control lines polarity-reversible.
- Max. 64 DALI drivers per DALI control line.
- The maximum distance length of the DALI control line is 300m at $2 \times 1.5\text{mm}^2$.
- DALI bus can be wired together with any mains voltage cables, but separate wiring is recommended.
- The configuration parameters of the driver can be set through the DALI configuration tool or DALI application controller during installation, such as setting device address, group address, power-on level, bus-failure level, scene level, fade time, dimming curve, etc.

Please refer to the table below

Cable size	Distance
$2 \times 0.50\text{mm}^2$	max.100m
$2 \times 0.75\text{mm}^2$	max.150m
$2 \times 1.00\text{mm}^2$	max.200m
$\geq 2 \times 1.50\text{mm}^2$	max.300m

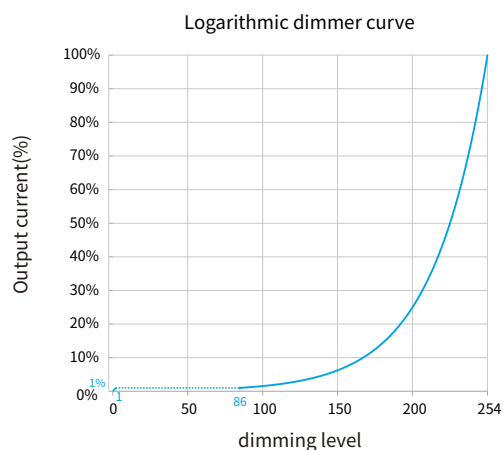
Power-on level :

When the driver is in DALI-2 dimming mode, the factory default level after each power-on is the brightest.

The power-on level can be set through the DALI configuration tool or DALI application controller during installation, and can be set to memory or fixed any brightness (such as off, darkest, 50%, etc.).

Note: The recommended setting for the default factory power-on level of the DALI-2 driver is the brightest in the DALI-2 standard.

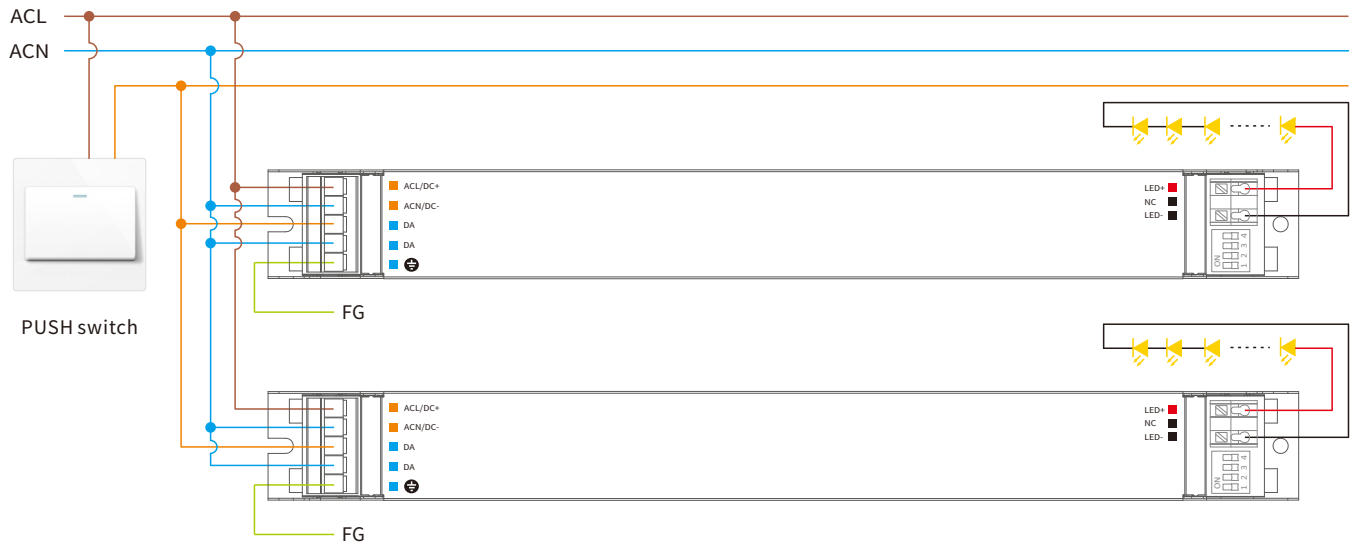
Dimming curve



Remarks: The dimming curve can be selected by DALI configuration. The default is logarithmic dimming curve.

pushDIM dimming application

Wiring diagram



Switch to the pushDIM dimming mode

After installation according to the wiring diagram of pushDIM dimming application, long press the pushbutton 3 seconds, the driver will automatically switch to the pushDIM dimming mode.

Remarks:

Max. 50 drivers per pushDIM control line.

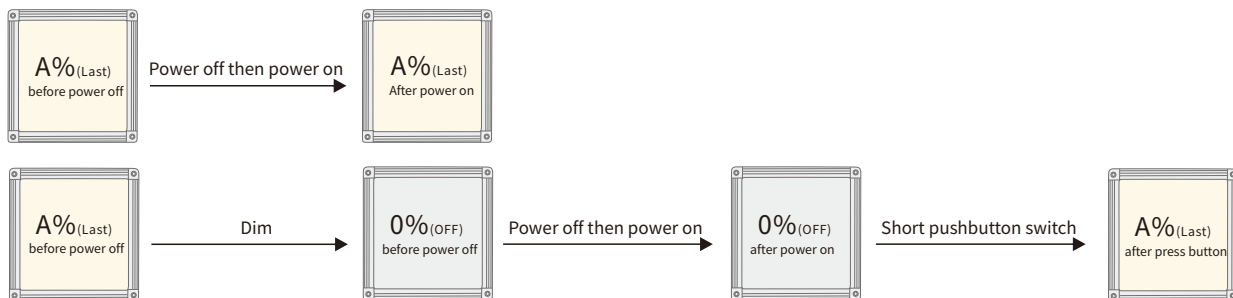
Turn on or turn off: short press pushbutton for 0.2-1s.

Dimming: long press pushbutton for 1-5s.

Power on status: after power on, the light state will be the same as the lighting on state.

If the light is on before power on, the light will be on after power on again, brightness will be the same as the last lighting on brightness.

If the light is off before power off, the light will be off after power on again, short press the pushbutton, then the light will be on, the brightness will be the same as the last brightness.



Multiple lights synchronize control operation

method 1:

Step 1: long press the pushbutton, confirm each light is on.

Step 2: short press the pushbutton, confirm each light is off.

Step 3: long press the pushbutton, confirm each light is from darkest to brightest and all the lights are synchronous.

method 2:

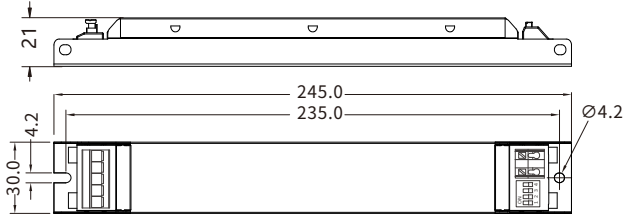
- Long press the pushbutton 15s, all lights output to the brightest state.

Installation

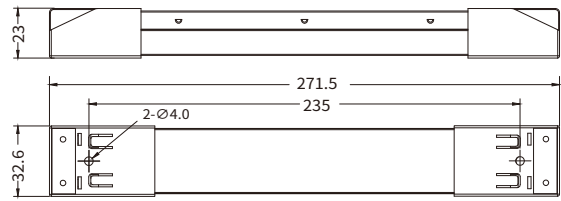
Mechanical dimensions

Unit:mm

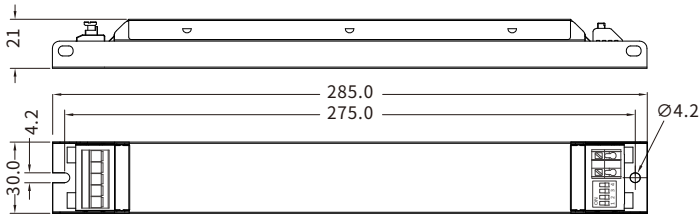
DAL030



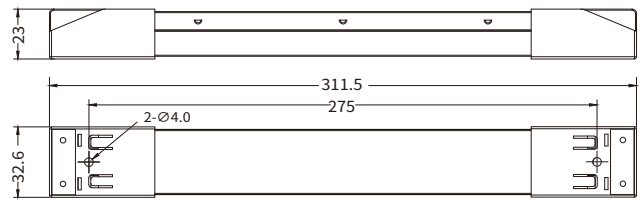
DAL030



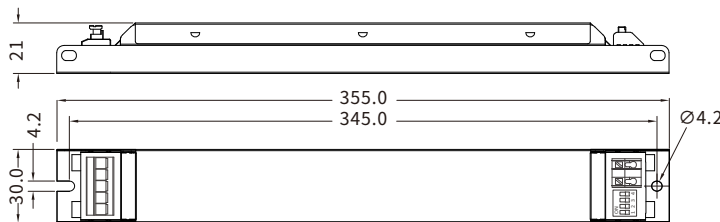
DAL040/DAL050



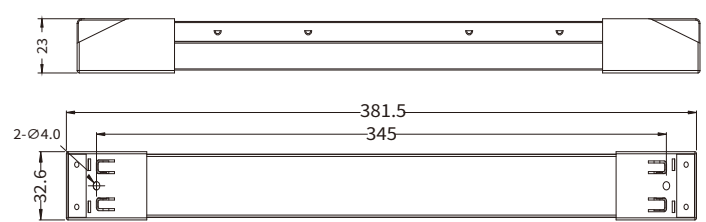
DAL040/DAL050



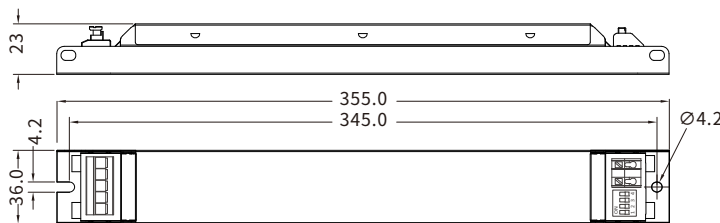
DAL060



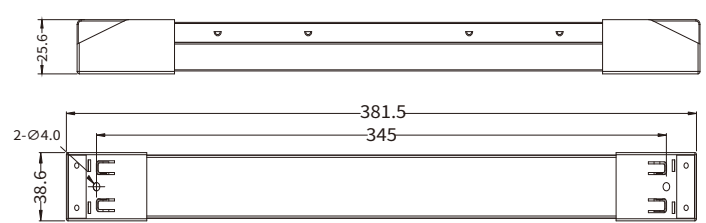
DAL060



DAL080



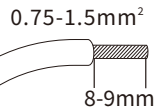
DAL080



INPUT

Pin Numbering	function	colour
1	ACL/DC+	orange
2	ACN/DC-	orange
3	DA	blue
4	DA	blue
5	FG	blue

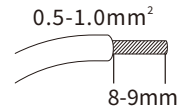
Input wire



OUTPUT

Pin Numbering	function	colour
1	LED-	black
2	NC	black
3	LED+	red

Output wire



Installation note

Hot plug-in

- Hot plug-in is not supported due to residual output voltage of > 0 V.
- If a LED load is connected the device has to be restarted.
- This can be done via mains reset or via interface (DALI,pushDIM).

Wiring guidelines

- All connections must be kept as short as possible to ensure good EMI behaviour.
- Mains leads should be kept apart from LED Driver and other leads (ideally 5 – 10 cm distance)
- Max. length of output wires is 2 m.
- Incorrect wiring can damage LED modules.

Mounting screw specifications and torque

- Max. torque at the clamping screw: 0.5 Nm / M4

Replace LED module

1. Mains off
2. Remove LED module
3. Wait for 5 seconds
4. Connect LED module again

Installation requirements

- The driver should be installed in a dry, acid-free, oil-free, fat-free environment.
- The installation ambient temperature of the drive shall not exceed the value of Ta at any time.
- The temperature of the mounting surface of the driver should be lower than 40°C
- The driver should keep a certain distance from the heating stuff (such as the luminaire radiator).
- If the driver is used externally (it needs to be used with the accessories), the installation of the driver should also meet the following conditions:
 - 1.The driver should be a certain distance between the drivers, as shown in Figure 1.
 - 2.The driver keeps a certain distance from surrounding objects, as shown in Figure 2.

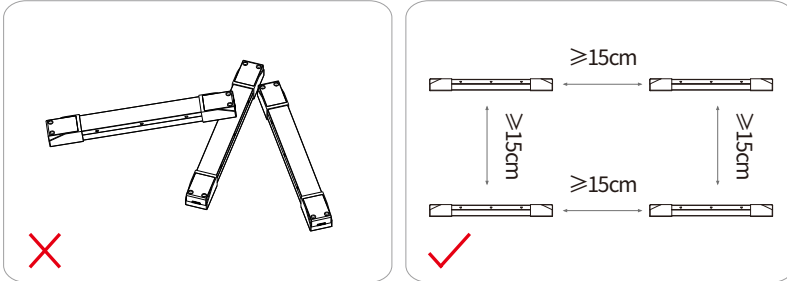


Figure 1

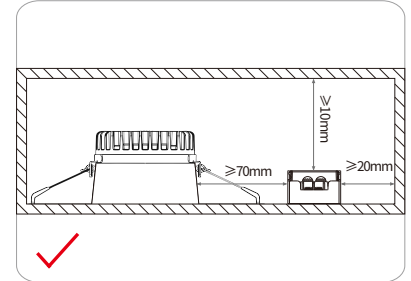
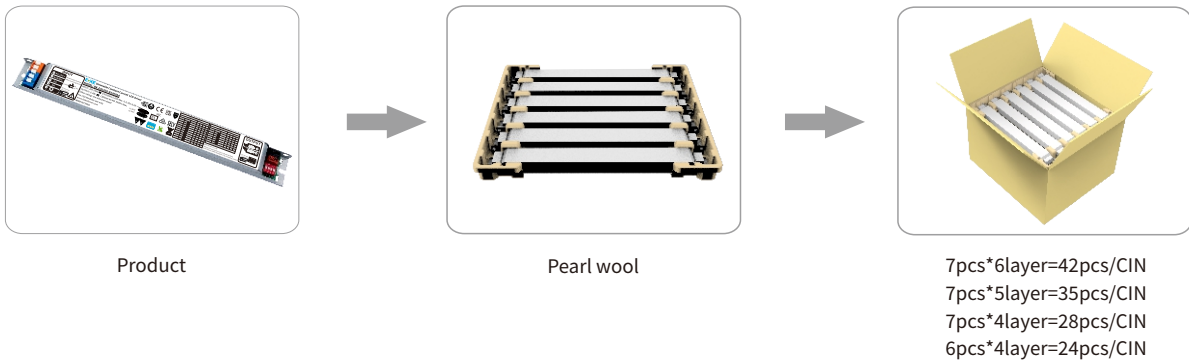


Figure 2

Packaging



Model	Product size	Weight	Pearl wool	Carton size	Qty/carton	N.W	G.W
DAL030-B	L245*W30*H21mm	166g	L340*W75*H29mm	L355*W285*H205mm	42pcs	6.97KG	8.27KG
DAL040-B	L285*W30*H21mm	206g	L340*W75*H29mm	L355*W325*H170mm	35pcs	7.21KG	8.53KG
DAL050-B	L285*W30*H21mm	223g	L340*W75*H29mm	L355*W325*H170mm	35pcs	7.81KG	9.02KG
DAL060-B	L355*W30*H21mm	281g	L340*W75*H29mm	L395*W355*H140mm	28pcs	7.87KG	9.08KG
DAL080-B	L355*W36*H23mm	370g	L340*W75*H33mm	L395*W355*H160mm	24pcs	8.88KG	10.1KG

Additional information

1. The life and MTBF of the product are for reference only, and do not represent a warranty statement.
2. For more information, please send an email to info@bokedriver.com.